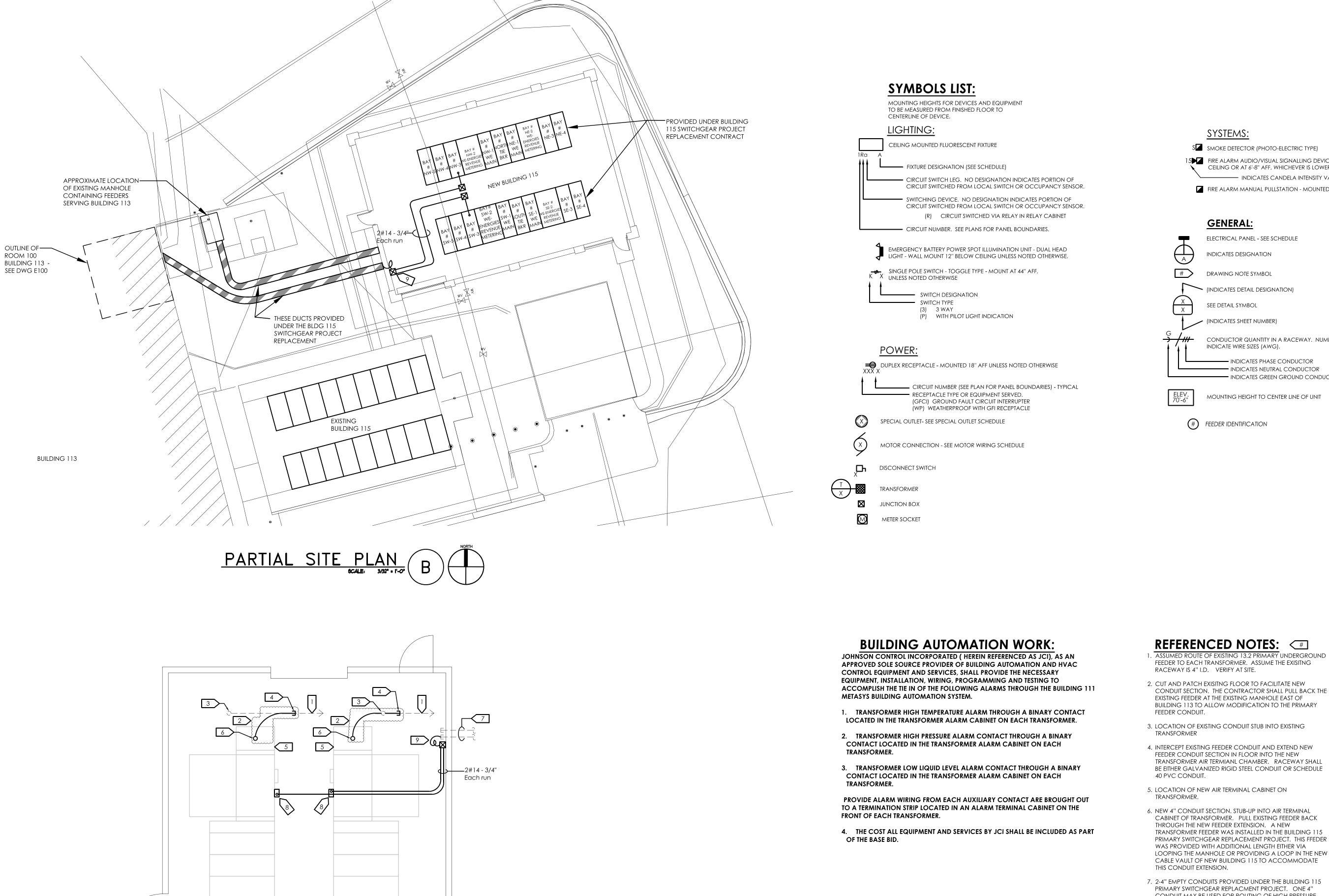


IN CASE OF CONFLICTS OR DISCREPANCIES WITHIN OR AMONG CONTRACT DRAWINGS, BETTER QUALITY, MORE STRINGENT REQUIREMENTS OR GREATER QUANTITY OF WORK, AS DETERMINED BY GOVERNMENT, SHALL BE PROVIDED.



15 FIRE ALARM AUDIO/VISUAL SIGNALLING DEVICE - MOUNT 6" BELOW CEILING OR AT 6'-8" AFF, WHICHEVER IS LOWER. ———— INDICATES CANDELA INTENSITY VALUE FIRE ALARM MANUAL PULLSTATION - MOUNTED AT 44" AFF **GENERAL**: ELECTRICAL PANEL - SEE SCHEDULE INDICATES DESIGNATION

DRAWING NOTE SYMBOL (INDICATES DETAIL DESIGNATION) SEE DETAIL SYMBOL (INDICATES SHEET NUMBER) CONDUCTOR QUANTITY IN A RACEWAY. NUMBERS INDICATE WIRE SIZES (AWG).

SYSTEMS:

S

SMOKE DETECTOR (PHOTO-ELECTRIC TYPE)

MOUNTING HEIGHT TO CENTER LINE OF UNIT

INDICATES PHASE CONDUCTOR

INDICATES NEUTRAL CONDUCTOR

INDICATES GREEN GROUND CONDUCTOR

FEEDER IDENTIFICATION

REFERENCED NOTES: (#)

. ASSUMED ROUTE OF EXISTING 13.2 PRIMARY UNDERGROUND FEEDER TO EACH TRANSFORMER. ASSUME THE EXISITNG RACEWAY IS 4" I.D. VERIFY AT SITE. 2. CUT AND PATCH EXISITNG FLOOR TO FACILITATE NEW

EXISTING FEEDER AT THE EXISTING MANHOLE EAST OF BUILDING 113 TO ALLOW MODIFICATION TO THE PRIMARY FEEDER CONDUIT.

3. LOCATION OF EXISTING CONDUIT STUB INTO EXISTING TRANSFORMER

4. INTERCEPT EXISTING FEEDER CONDUIT AND EXTEND NEW FEEDER CONDUIT SECTION IN FLOOR INTO THE NEW TRANSFORMER AIR TERMIANL CHAMBER. RACEWAY SHALL BE EITHER GALVANIZED RIGID STEEL CONDUIT OR SCHEDULE 40 PVC CONDUIT.

5. LOCATION OF NEW AIR TERMINAL CABINET ON TRANSFORMER.

6. NEW 4" CONDUIT SECTION. STUB-UP INTO AIR TERMINAL CABINET OF TRANSFORMER. PULL EXISTING FEEDER BACK THROUGH THE NEW FEEDER EXTENSION. A NEW TRANSFORMER FEEDER WAS INSTALLED IN THE BUILDING 115 PRIMARY SWITCHGEAR REPLACEMENT PROJECT. THIS FFEDER WAS PROVIDED WITH ADDITIONAL LENGTH EITHER VIA LOOPING THE MANHOLE OR PROVIDING A LOOP IN THE NEW CABLE VAULT OF NEW BUILDING 115 TO ACCOMMODATE

7. 2-4" EMPTY CONDUITS PROVIDED UNDER THE BUILDING 115 PRIMARY SWITCHGEAR REPLACMENT PROJECT. ONE 4" CONDUIT MAY BE USED FOR ROUTING OF HIGH PRESSURE ALARM TRIP OF FEEDER FOR EACH TRANSFORMER FROM RELATED SWITCHGEAR BAY IN BUILDING 115. WIRE ONTO TERMINALS PROVIDED IN FRONT OF CIRCUIT BREAKER -COORDINATE WITH BLDG 115 PROJECT CONTRACTOR.

8. ALARM TERMINAL STRIP IN CABINET ON FRONT OF EACH TRANSFORMER.

9. PROVIDE A SINGLE 6 CONDUCTOR #14 MC CABLE AND PULL THROUGH THE EXISITNG 4" CONDUIT. TRANSITION FROM CABLE IN CONDUIT TO TYPE MC CABLE AT A JUNCTION BOX NEAR THE SPARE CONDUIT STUBBED THROUGH THE WALL. TWO OF THE CONDUCTORS IN THE MC CABLE ARE SPARES TERMINATE 2#14 EACH ON SWITCHGEAR CIRCUIT BREAKERS NW-3 AND SW-3 IN BUILDING 115. WIRE ONTO TERMINALS PROVIDED IN FRONT OF CIRCUIT BREAKER - COORDINATE WITH BLDG 115 PROJECT CONTRACTOR. THESE 4.16 KV FEEDER CIRCUIT BREAKERS ARE TO TRIP ON A HIGH PRESSURE ALARM REGISTERED AT THE TRANSFORMER.

ABBREVIATIONS:

ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AVAILABLE INTERRUPTING CURRENT ARCHITECT/ENGINEER ALTERNATE ALTERNATOR SWITCH ARCHITECT AUTOMATIC TRANSFER SWITCH BELOW FINAL GRADE BOLTED PRESSURE CONTACT SWITCH BRFAKFR BUILT IN OVERLOAD CABLE TELEVISION CLOSED CIRCUIT TELEVISION CIRCUIT BREAKER CIRCUIT CEILING CONTROL PANEL COMBINATION STARTER CURRENT TRANSFORMER DUAL ELEMENT FUSES DISCONNECT DOWN ELECTRICAL CONTRACTOR ELEVATION REFERENCE **EMERGENCY** ELECTRICAL NON-METALLIC TUBING ELECTRIC METALLIC TUBING END OF LINE RESISTOR EXPLOSION PROOF EXISTING TO BE REMOVED EXISTING TO BE RELOCATED EXISTING RELOCATED ETR EXISTING TO REMAIN FXISTING ELECTRIC WATER COOLER FIRE ALARM ANNUNCIATOR PANEL FIRE ALARM CONTROL PANEL FURNISHED BY OTHERS FDR FEEDER FIXTURE FLOOR FLR FULL LOAD AMPS **FLUORESCENT** FLUOR FLOW SWITCH FULL VOLTAGE NON-REVERSING GENERAL CONTRACTOR **GROUND FAULT INTERRUPTER** GALVANIZED RIGID CONDUIT GROUND HIGH INTENSITY DISCHARGE HAND-OFF-AUTO SWITCH HORSEPOWER HIGH PRESSURE SODIUM HIGH VOLTAGE HEATING & VENTILATING - AIR CONDITIONING HEATING VENTILATING CONTRACTOR **HEAVYWALL** INDIRECT INTERLOCK INTERMEDIATE METAL CONDUIT NCANDESCENT JUNCTION BOX LAY-IN GRID LIGHTING LOW VOLTAGE LINE VOLTAGE THERMOSTAT MAGNETIC STARTER MANUAL STARTER MOTOR CONTROL CENTER MAIN DISTRIBUTION PANEL MAIN LUGS ONLY MAIN SWITCHBOARD MOUNTED NOT IN CONTRACT NEAR UNIT ON UNIT PUSHBUTTON PENDANT PHOTO CONTROL PNEUMATIC SWITCH PLBG PLUMBING CONTRACTOR PNL PANEL RELAY remain as is RE/CKT RECONNECT TO EXISTING CIRCUIT RECESS RECEPT RECEPTACLE ROOM RM

SHEET INDEX:

XFMR

ELECTRICAL SYMBOLS & ABBREVIATIONS

REDUCED VOLTAGE STARTING

TEMPERATURE CONTROL PANEL

TEMPERATURE CONTROL CONTRACTO

SPLINE

SELECTOR SWITCH

SURFACE SW SWITCH

SPEED SWITCH

TIME CLOCK

TAMPER SWITCH TYPICAL

UNDERGROUND

UNIT SUBSTATION

WEATHERPROOF

TRANSFORMER

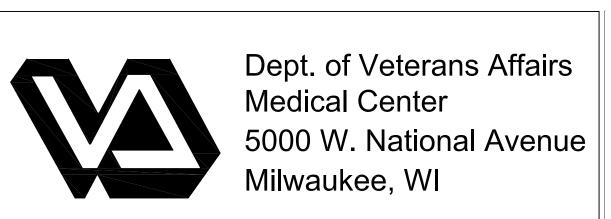
UNIVERSAL

SWGR ROOM PLAN - ELECTRICAL E100

Project Number

CHILLER PLANT - ELECTRICAL

E101 E102 ONE LINE POWER DISTRIBUTION DIAGRAM - SWITCHBOARD #1 E103 ONE LINE POWER DISTRIBUTION DIAGRAM - SWITCHBOARD #2 FLOOR PLAN - LOWER LEVEL - TECHNOLOGY Y100



one eighth inch = one foot

0 4 8 16

Revisions:

VA FORM 08-6231, OCT 1978

Date

13.2 KV FEEDER MODIFICATIONS & ALARM WIRING - ROOM 100









PROJECT LEADER/STRUCTURAL ENGINEER:

ASHLAND, WI 211 6TH STREET WEST ASHLAND, WI, 54806 PHONE: (715) 682-6004 MILWAUKEE, WI 1109 N. MAYFAIR RD., SUITE 208 MILWAUKEE, WI, 53226 PHONE: (414) 258-6004

Abbreviations VERIFY SCALES BAR BELOW IS 1" ON ORIGINAL DRAWING IF NOT 1" ON

REPRODUCTION, ADJUST

SCALES ACCORDINGLY

Drawing Title

Building 113 -**Electrical Symbols &** Replace FCA Switchboard

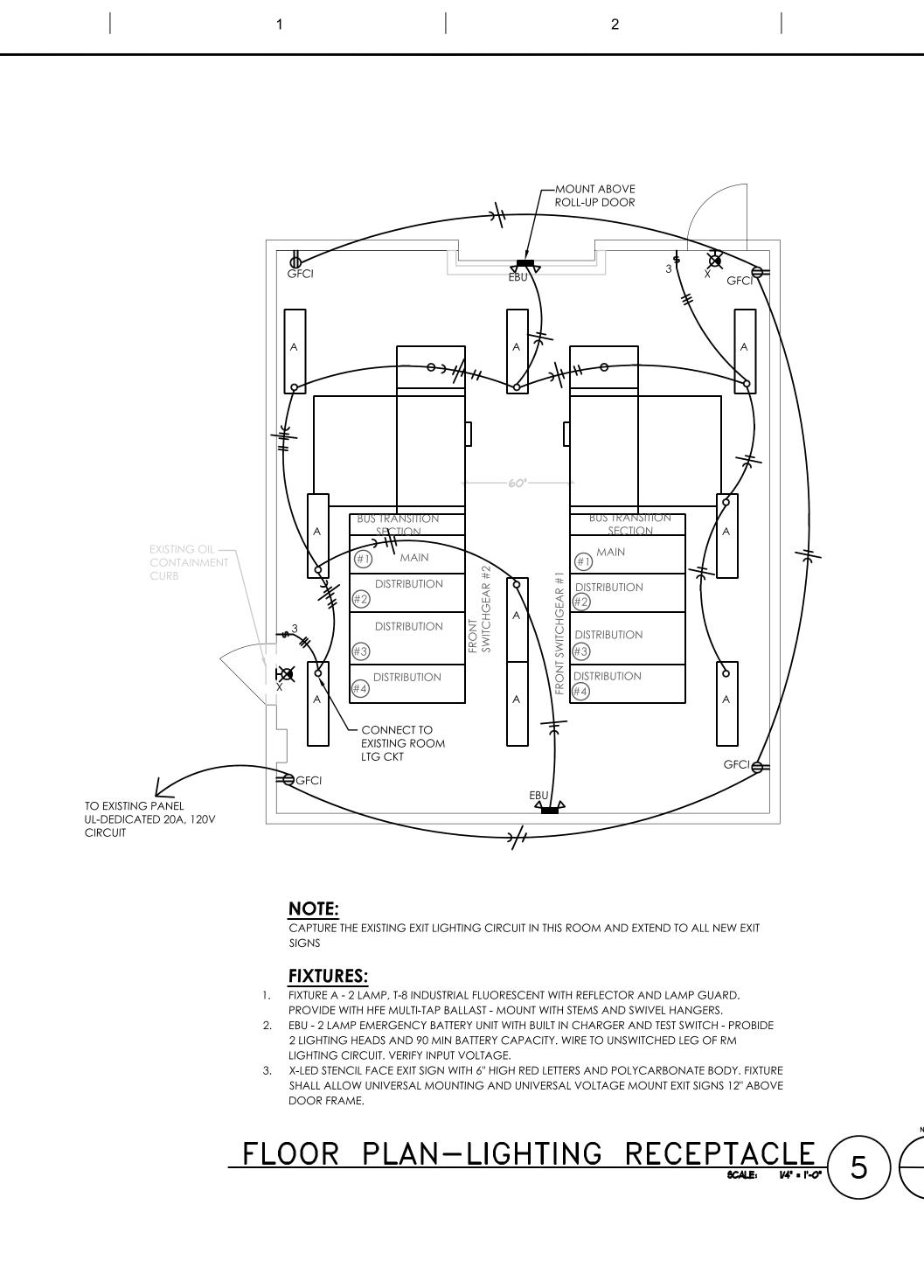
Project Title

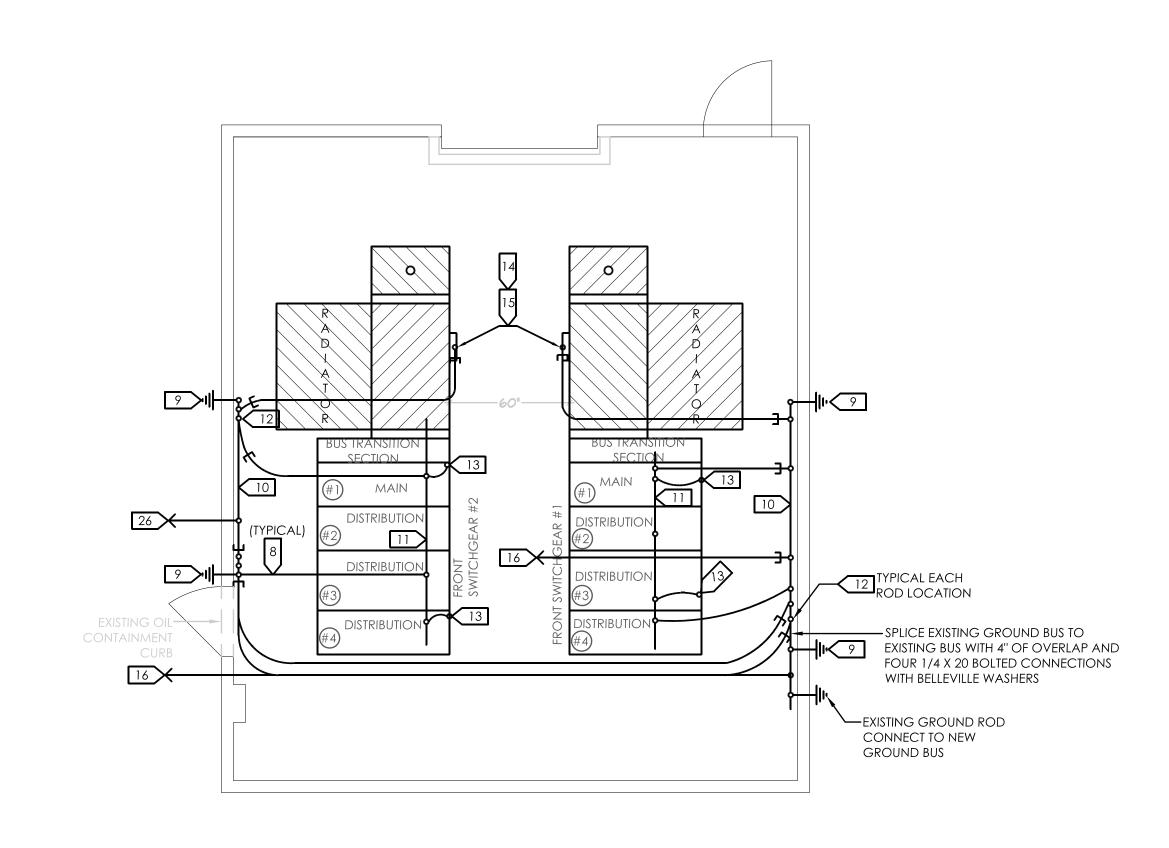
VA Medical Center, Milwaukee, WI Checked By: Drawn By: G+L G+L 20 JULY 2012

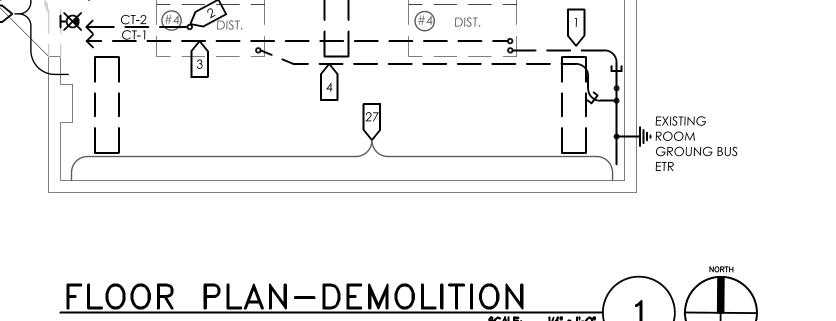
695-12-119 Office of Building Number **Facilities** Management Drawing Number

CONSTRUCTION DOCUMENTS

Department of Veterans Affairs Department of







BUS TRANSITION

EXISTING OIL SWITCH ——

-REMOVE & DISPOSE OF

ABANDONED BATTERY

-----4" x 4" BOX MARKED

— EXISTING CONDUIT WITH

FIBER-OPTIC CABLE TO

REMAIN

FIRE ALARM -EXISTING TO REMAIN

POWER SUPPLY

-REMOVE AND

ROLL-UP DOOR

BUS TRANSITION

RELOCATE EXISTING

FIRE ALARM STATION



GROUND

PENDANT MOUNTED FLUORESCENT FIXTURE

EMERGENCY BATTERY POWER SPOT ILLUMINATION UNIT - DUAL HEAD LIGHT - WALL MOUNT 12" BELOW CEILING UNLESS NOTED OTHERWISE. SINGLE POLE SWITCH - TOGGLE TYPE - MOUNT AT 44" AFF, UNLESS NOTED OTHERWISE

JUNCTION BOX

DUPLEX RECEPTACLE - MOUNTED 18" AFF UNLESS NOTED OTHERWISE GFCI = GROUND FAULT CIRCUIT INTERRUPTER

FIRE ALARM MANUAL PULLSTATION - MOUNTED AT 44" AFF

15 FIRE ALARM AUDIO/VISUAL SIGNALLING DEVICE - MOUNT 6" BELOW CEILING OR AT 6'-8" AFF, WHICHEVER IS LOWER. ——— INDICATES CANDELA INTENSITY VALUE

SMOKE DETECTOR (PHOTO-ELECTRIC TYPE)

DRAWING NOTE SYMBOL

CONDUCTOR QUANTITY IN A RACEWAY. NUMBERS

INDICATE WIRE SIZES (AWG). ——— INDICATES PHASE CONDUCTOR INDICATES NEUTRAL CONDUCTOR INDICATES GREEN GROUND CONDUCTOR

PHASING NOTES:

FLOOR PLAN-GROUNDING PLAN

1. REMOVAL OF EXISTING SWITCHBOARDS AND INSTALLATION OF NEW SWITCHGEAR SHALL BE PERFORMED BETWEEN NOV. 15TH 2013 AND APRIL 1ST 2014. 2. 2ND SWITCHBOARD REMOVAL SHALL NOT OCCUR UNTIL 1ST SWITCHGEAR LINE IS INSTALLED, TESTED AND ENERGIZED.

LAYOUT NOTES:

NEW SWITCHGEAR SECTION LAYOUT SHALL LINE UP SO CENTERLINES OF NEW AND EXISTING DISTRIBUTION SECTIONS ALLOW CAPTURE OF EXISTING FEEDER CONDUITS IN FLOOR.

GENERAL NOTES:

1. MINIMUM SIZE GROUNDING CONDUCTOR INDICATED ON GROUNDING PLAN SHALL BE #3/0 BARE COPPER. ROUTE IN SCHEDULE 40 PVC CONDUIT EXCEPT INSIDE OF EQUIPMENT ENCLOSURES.

2. SEE DWG E101 FOR LOCATION OF GROUNDING BOND TO CHILLED WATER PIPING. 3. PROVIDE GROUNDING BUSHING ON ALL METALLIC CONDUITS ENTERING NEW SWITCHBOARDS. TIE BUSHING TOGETHER AND ONTO CONTINUOUS GROUND BUS

INSIDE SWITCHGEAR. 4. SIZE JUNCTION BOXES PER ARTICLE 314 OF NATIONAL ELECTRICAL CODE.

REFERENCED NOTES:

1. REMOVE EXISTING OVERHEAD CONDUIT WITH ELECTRODE GROUNDING CONDUCTOR - TO EXISTING SWITCHBOARDS #1 AND #2.

2. REMOVE EXISTING 200A OVERHEAD FEEDER TO CT FAN-2. RE-FEED FROM NEW

3. REMOVE EXISTING 200A OVERHEAD FEEDER TO CT FAN-1. RE-FEED FROM NEW MDP-2.

4. REMOVE EXISTING GROUNDING CONDUCTOR & CONDUIT.

5. NEW 800A FEEDER ROUTED OVERHEAD TO NEW MDP-1. 6. NEW 800A FEEDER ROUTED OVERHEAD TO NEW MDP-2.

NOT USED 8. #3/0 GREEN THHN CU IN SCHEDULE 40 PVC CONDUIT - CONNECTION BETWEEN ROOM GROUND BUS AND GROUND BUS IN SWITCHGEAR.

9. 5/8" X 20'-0" SECTIONAL GROUND ROD CORE FLOOR AND DRIVE ROD THROUGH CORE. FILL IN CORE WITH PATCHING CONCRETE UPON COMPLETION OF GROUND ROD INSTALLATION. X-RAY FLOOR SLAB TO AVOID DRIVING ROD THROUGH ANY EXISTING UNDERGROUND FEEDERS OR OTHER PIPING. PROVIDE UP TO 3 X-RAYS AT EACH GROUND ROD LOCATION.

10. 1/4" X 4" COPPER GROUND BUS. FASTEN TO WALL WITH INSULATED STAND-OFFS (MOUNT @ 12" AFF) 11. CONTINUOUS COPPER GROUND BUS IN SWITCHGEAR.

12. CONNECT TO GROUND BUS WITH NON-REMOVABLE ONE-WAY HIGH COMPRESSION

13. GROUND SWITCHGEAR FRAME TO THE CONTINUOUS GROUND BUS AT EACH END OF THE SWITCHGEAR. PROVIDE ADDITIONAL CONNECTIONS AT SHIPPING SPLITS. 14. TIE TO GROUND PAD ON EXISTING TRANSFORMER - CONNECT WITH TWO HOLE LONG BARREL HIGH COMPRESSION CRIMP LUGS.

15. LOCATION OF GROUNDING PAD ON TRANSFORMER. 16. BOND TO BUILDING 113 WATER SERVICE INSIDE CHILLED WATER PLANT WITH #3/0 THHW COPPER IN CONDUIT - SEE DRAWING E101 FOR LOCATION. 17. EXISTING OIL CONTAINMENT CURB SHALL BE MODIFIED AS INDICATED UNDER BASE

18. REMOVE & DISPOSE OF EXISTING LIGHTING FIXTURES 19. STUB-UP LOCATION FOR EXISTING PRIMARY FEEDER CONDUIT THROUGH FLOOR -(CAPTURE AND RE-TERMINATE)

20. EXISTING FEEDERS TO P-6 AND P-7. CONTINUED ON DWG E-101. PROVIDE NEW FEEDER SECTION BETWEEN SWITCHGEAR AND EXISTNG JUNCTION.

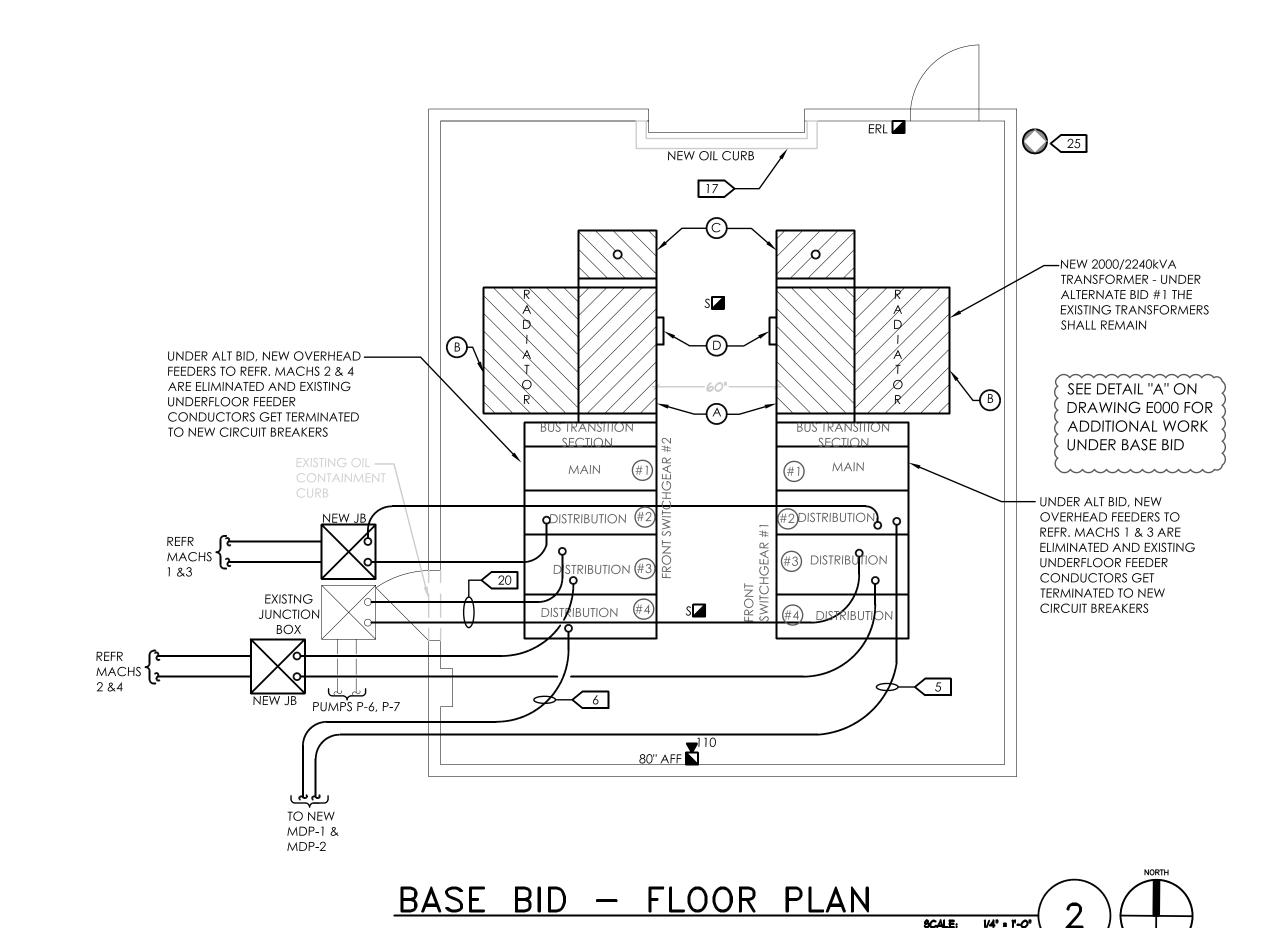
BID FLOOR PLAN - SEE THE ARCHITECTURAL DRAWINGS FOR DETAILS.

21. EXISTING OVERHEAD FEEDERS TO CT-1 AND CT-2 REFEED FROM NEW MDP-1 AND MDP-2. SEE DWG E101. REMOVE ENTIRE LENGTH OF EXISTING FEEDER.

22. NOT USED 23. EXISTING JUNCTION BOXES CONTAINING FIBER-OPTIC CABLE - EXISTING TO REMAIN. 24. EXISTING FIBER-OPTIC CABLE - PROTECT DURING CONSTRUCTION.

25. EXISTING PORTABLE GENERATOR CONNECTION RECEPTACLE TO REMAIN - PROTECT DURING CONSTRUCTION. 26. #3/0 THHW COPPER IN CONDUIT - BOND TO COLUMN INDICATED ON DWG E101.

27. EXISTING EQUIPMENT ON THIS WALL SHALL REMAIN.





one eighth inch = one foot

0 4 8 16

Revisions:

VA FORM 08-6231, OCT 1978





Fax: 414-643-4210





PROJECT LEADER/STRUCTURAL ENGINEER:		Swgr Room Plan -
	ASHLAND, WI	Electrical
CHEQUAMEGON BAY ENGINEERING, INC.	211 6TH STREET WEST ASHLAND, WI, 54806	
	PHONE: (715) 682-6004 FAX: (715) 682-6025	
	MILWAUKEE, WI	VERIFY SCALES
		BAR BELOW IS 1" ON
	1109 N. MAYFAIR RD., SUITE 208	ORIGINAL DRAWING
	MILWAUKEE, WI, 53226	
	PHONE: (414) 258-6004 FAX: (414) 258-6154	IF NOT 1" ON REPRODUCTION, ADJUST
	1 AA. (+1+) 230-0134	TERODUCTION, ADJUST

B = TRANSFORMER RADIATOR

SCALES ACCORDINGLY

= AIR TERMINAL CHAMBER= CONTROL CABINET

Drawing Title Project Title Building 113 oom Plan -Replace FCA Switchboard ERIFY SCALES BAR BELOW IS 1" ON

Building Number Drawing Number VA Medical Center, Milwaukee, WI Checked By: Drawn By: G+L 20 JULY 2012

Office of **Facilities** Management

CONSTRUCTION DOCUMENTS

Project Number

695-12-119

G+L

Department of Veterans Affairs

